

R E P O R T R E S U M E S

ED 016 465

JC 670 942

SAN DIEGO FACILITY SETS NEW PATTERN FOR APPRENTICE TRAINING.

BY- ARNOLD, WALTER M.

AMERICAN VOCATIONAL ASSN., WASHINGTON, D.C.

PUB DATE JAN 66

EDRS PRICE MF-\$0.25 HC-\$0.28 5P.

DESCRIPTORS- *JUNIOR COLLEGES, *TECHNICAL EDUCATION, VOCATIONAL EDUCATION, *TRADE AND INDUSTRIAL EDUCATION, *VOCATIONAL RETRAINING, RETRAINING, APPRENTICESHIPS, SKILLED OCCUPATIONS, *COLLEGE BUILDINGS, EDUCATIONAL FACILITIES, SAN DIEGO, CALIFORNIA,

THE APPRENTICE TRADES BUILDING AT SAN DIEGO MESA COLLEGE WAS ERECTED WITH COOPERATIVE FINANCING BY THE FEDERAL GOVERNMENT (UNDER THE VOCATIONAL EDUCATION ACT OF 1963), THE COMMUNITY SCHOOL SYSTEM, LABOR UNIONS, AND INDUSTRY. THE STRUCTURE AND SITE COST OF \$339,000 WAS PROVIDED FROM FEDERAL AND SCHOOL DISTRICT FUNDS, WHILE THE EQUIPMENT, WORTH \$105,000, WAS CONTRIBUTED BY LABOR AND INDUSTRY. IN ITS TWELVE SHOPS, IT REPRESENTS 17 TRADES FOR APPRENTICE TRAINING OR JOURNEYMAN RETRAINING AND, SINCE THE OPENING OF THE FACILITY IN SEPTEMBER 1966, IT HAS SERVED AN AVERAGE OF MORE THAN 700 STUDENTS PER WEEK. THE PLANNERS EXPECT THAT THE PROJECT WILL BEGIN A NEW TREND IN APPRENTICESHIP EDUCATION. THIS ARTICLE IS PUBLISHED IN "AMERICAN VOCATIONAL JOURNAL," VOLUME 41, NUMBER 1, JANUARY 1966. (HH)

VOCATIONAL
FACILITIES

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE
PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS
STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION
POSITION OR POLICY.

ED016465

UNIVERSITY OF CALIF.
LOS ANGELES

NOV 13 1967

CLEARINGHOUSE FOR
JUNIOR COLLEGE
INFORMATION

WALTER M. ARNOLD, Assistant Commissioner
Vocational and Technical Education, U.S. Office of Education

SAN DIEGO FACILITY SETS NEW PATTERN FOR APPRENTICE TRAINING

Federal funds, an educator's vision, and industry
and labor working together add up to a new
apprenticeship trades building for Mesa College



One personality looms large in the story of the Mesa Col-
lege apprenticeship school—Joseph H. Stephenson, direc-
tor of vocational education at San Diego. He is shown here
(on the right) as he poses with Walter M. Arnold during
dedication ceremonies on October 16.

In: American Vocational Journal, 41/16-19, January
1967

LOCATED ON THE CAMPUS of San Diego Mesa College is a new apprenticeship trades building that may well set a national pattern for apprenticeship training in this day of rapid technological change, knowledge explosion and space race. It could be the first step in the most far-reaching movement that apprenticeship has known.

The result of apprentice-educator pioneering in California, this new school not only utilizes the most up-to-date equipment to provide ongoing apprenticeship programs in 17 different trades, but it also offers journeymen the facilities for the continuous retraining that the times demand.

Opened in September of this year and dedicated on October 16, it is already showing signs of success. It is viewed by journeymen, management, labor unions, educators, and public officials in all parts of the nation as a major step in the advancement of apprenticeship programs and as a resource to help meet present and future demands for skilled labor.

Monument to a New Era

Because of its many "firsts," this modern and well-equipped trades building of precast concrete and tilt-up construction will inevitably stand as a monument to a new era in apprenticeship training. It is the first apprenticeship building to be constructed with federal funds granted under the provisions of the Vocational Education Act of 1963. It is also the first to be constructed through joint efforts of school and vocational officials, labor unions and business and industrial management; and it is the first to have laboratories and shops equipped by capital invested by labor unions and management.

Unique in many ways, it has already given training to an average of more than 700 journeymen and/or apprentices a week.

California has long been a progressive state in encouraging and conducting apprenticeship and vocational and technical training programs. Furthermore, industrial management and labor unions in the state have enjoyed a cooperative working relationship for many years. In California it is not unusual for labor and management to sit down together when future interests of the state are involved. In this instance, their cooperation resulted in a joint contribution of \$105,000 for equipment, over and above the cost of the building and site.

Equipped for Modern Teaching Methods

As a consequence, the new school boasts such specialized equipment as four microwelders (at a total cost of \$5,000), barber chairs at \$750 each, a York air-conditioning trainer valued at \$1,000, and numerous audio and visual aids that will permit the school to employ the most modern teaching methods.

The PIPE Trades alone, through their local and international fund, spent \$50,000 on equipment, and smaller trade unions followed suit with proportional amounts.

TWO NEW PLANNING AIDS FOR CIVIL TECHNOLOGY PROGRAMS

1. Civil Technology Equipment List
2. Soiltest 318-page Catalog of Engineering Test Equipment

Available now from SOILTEST, INC., the world's largest manufacturer and supplier of engineering test equipment. Write to:



SOILTEST, INC.
2205 LEE STREET
EVANSTON, ILL. 60202

What's New at COPE for Courses in Plastics?

→ Hi-Impact Styrene for
→ Vacuum Forming with
→ Di-Acro Plastic Presses

NOW — Schools Can Further Widen the Scope of Plastics Training Beyond Handicraft Stage!

Here's another example of what we're now offering IA teachers to help them turn out more qualified job applicants for the dynamic plastics industry:

Di-Acro Plastic Presses. Made in two different models, and specifically designed for experimental labs and school shops. They are safe, simple to set up and operate. Versatile enough to perform such work as blow forming, mechanical stretch forming, vacuum forming as well as the most advanced type of product development involving design

and construction of forms and molds plus machining of formed members. Equipped to handle Hi-Impact Styrene and other thermoplastic sheets.

Hi-Impact Styrene. For use with Di-Acro Presses. Pre-packaged in your choice of five different kits consisting of 6, 12 or 16 sheets, in random colors of uniform 24" x 36" size. Although this material is overrun from other jobs, it is top grade stock, and priced to save you a pretty penny! Sheets also available in bulk.

See page 49 in our Catalog for Specs and Prices on Di-Acro Presses; page 48 for details on Hi-Impact Styrene Kits.

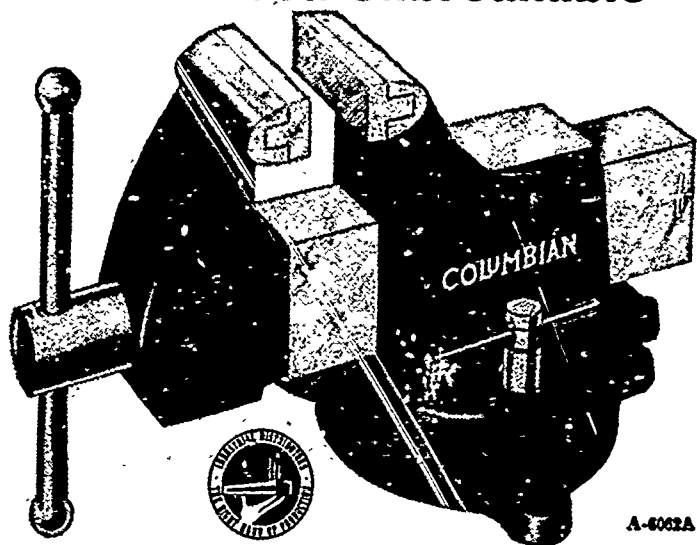
COPE PLASTICS for ALL Your Needs in Plastic Craft Supplies

- | | | |
|--------------------------------|---------------------------------------|-----------------------------|
| ● Plexiglas | ● Molding Pellets | ● Tooling Epoxies for Molds |
| ● Lucite Tubing | ● Fiberglass Cloth | ● Salvage Material |
| ● Cellulose Acetate | ● Polyester and Epoxy Resins | ● Electric Ovens |
| ● Styrofoam | ● Tenite II Screw Driver Handle Stock | ● Carving Tools |
| ● Adhesives | ● Plastic Lacing, Belting | ● Dyes, Blending |
| ● Buffing Wheels and Compounds | ● Castelite | ● Granules, Filling |
| ● Jewelry Findings | ● UNEX JET Injection Molding Machine | ● Plaster for Carvings |

Send for FREE CATALOG and School Discount Schedule!

COPE PLASTICS Dept. Z, Highway 100
Godfrey, Ill. 62035
"Just Across the Mississippi from St. Louis."

COLUMBIAN Machinists' Vises Guaranteed Unbreakable



- ✓ "T" section hardened tool steel replaceable jaw faces
- ✓ Steel handle balls forged from handle stock
- ✓ Self-lubricating graphite bronze thrust bearing
- ✓ Kit converts stationary to swivel base vise

14 different models

Swivel No.	Stationary No.	Jaw Width In.	Jaw Opening In.	Throat Depth In.
603M2	503M2	3	4	3
603½M2	503½M2	3½	5	3¼
604M2	504M2	4	6	3⅝
604½M2	504½M2	4½	7	4⅛
605M2	505M2	5	8	4¼
606	506	6	10	4⅜
608	508	8	12	6

COLUMBIAN VISE & MFG. CO. Cleveland 4, Ohio

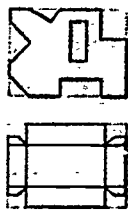
PEXTO®

**PS-66 COMBINATION
NOTCHER, COPER & SHEAR**

Designed for tab corner and inside notching, coping, splay-cutting, pierce-cutting, and shearing. Features a work table with edges machine-squared for accurate gauge setting.

Complete line of machines and tools for sheet metal fabrication.

THE PECK, STOW & WILCOX CO., Southington, Connecticut



When Changing Your Address . . .

. . . it is important that you notify the JOURNAL in order to assure that you receive future issues promptly. Please send the JOURNAL (1025 15th St., N.W., Washington, D. C. 20005) your new address, membership number if possible, and the mailing label from your last copy of the magazine.

The cost of the structure and site, exclusive of equipment, was \$339,000. Of this total, \$157,000 came from federal funds, under the Vocational Education Act of 1963; state funds provided \$88,000, and the remainder, \$94,000, came from the San Diego Unified School System.

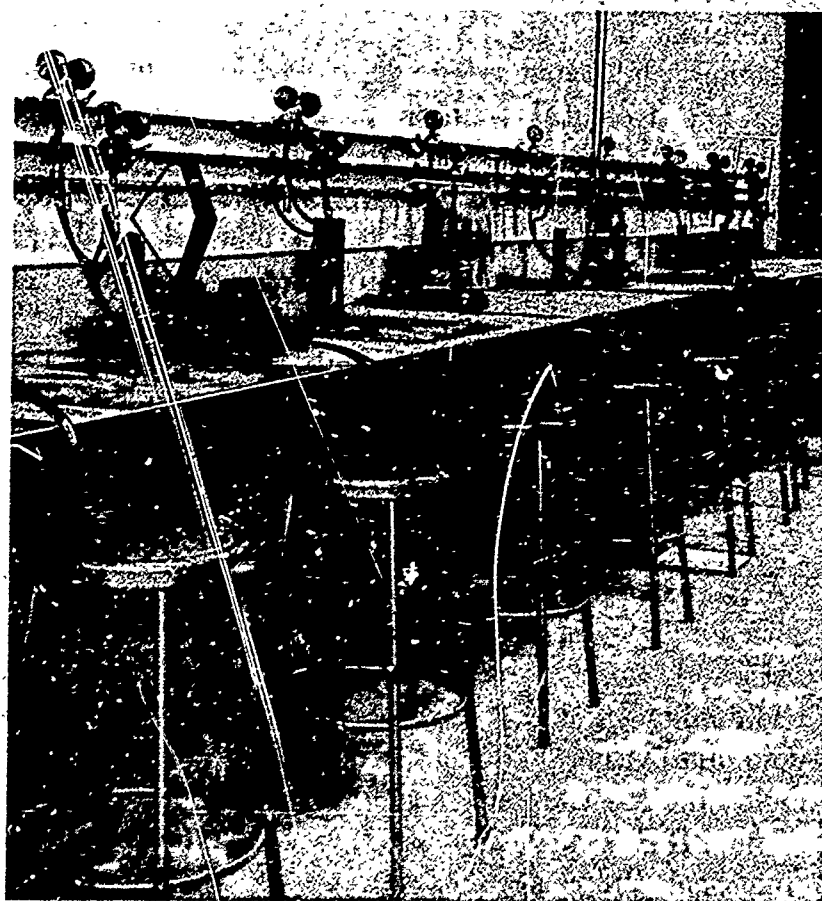
The building occupies 40,280 square feet of space. Its design complements that of other Mesa College buildings, but it is distinguished by concrete slabs outside each of the 12 shops which allow apprentices to take advantage of the San Diego climate to work outdoors.

Seventeen Trades Represented

All trade unions not otherwise adequately housed are utilizing this institution. At present 17 trades are represented in classes in the 12 shops.

Success and interest have characterized apprenticeship programs in San Diego since 1937, when classes in carpentry, meat cutting, painting, and plumbing began. Because of the success of those first classes, local personnel were invited to work with state leaders in the implementation of the Shelley-Maloney Apprenticeship Labor Standards Act of 1939.

Eighteen years ago, Joseph H. Stephenson, a dedicated vocational educator, now director of vocational education for the San Diego Unified School System, conceived the idea of a single apprenticeship building. To foster and promote his idea of apprenticeship training, a group of interested persons organized the San Diego General Apprenticeship Committee in 1954. The committee encouraged the San Diego Unified School System to provide shop facilities and urged local taxpayers to support the program. Mr. Stephenson persevered and spearheaded his project throughout the years, and with



WELDING SHOP in San Diego's new apprenticeship trades school. Industry furnished the equipment and benches.

the passage of the Vocational Education Act of 1963, saw the first breakthrough.

Since then, the apprenticeship program has made continual progress. Now working with the San Diego Junior Colleges are 27 joint apprenticeship committees consisting of 226 members representing labor and management in these areas: automotive, barbering, brick-laying, carpentry, cement masonry, drywall, electrical, floor covering, glazing, ironworking, lathing, machine shop, meat cutting, mill cabinet, painting, plastering, plumbing, refrigeration, roofing, sheet metal, sign painting, sound, steamfitting, surveying, San Diego Gas & Electric Company, San Diego Civil Service, and General Dynamics/Convair.

During the years prior to the construction of the new building—while many attempts to acquire satisfactory quarters were being made—San Diego faced the problem that has existed in apprenticeship training throughout the nation. Classes were conducted in old buildings, or wherever space was available. Now San Diego has come up with a workable plan that could well set the pace for other apprentice training programs.

The program conducted in the San Diego school is intended primarily for apprentices but it also serves journeymen. This is extremely important and has already proved its value in projects such as Sea World, which required workmen skilled in the use of glass pipe; the Salk Laboratories, where a special skill technique was necessary; and in the Atomic Power Plant, where

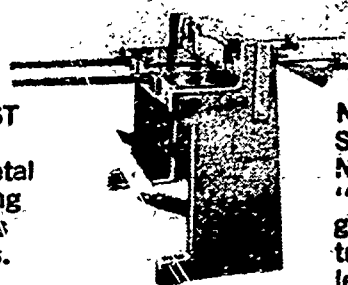
the handling of new and exotic materials required specialized training.

The new school at Mesa College exemplifies the trends we will see in the future—an emphasis on continuous retraining and on the need to encourage people of all ages to avail themselves of the numerous educational and training opportunities that are forthcoming.

We in the U.S. Office of Education are proud of the apprenticeship trades building in San Diego. We feel that the investment on the part of the federal government, the community, the labor unions, and industrial management will multiply in the interests of each and in the interest of an improved society.

NEW PEXTO[®] SAFETY SHEAR

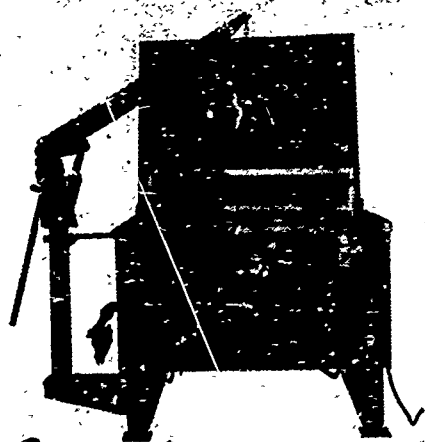
The FIRST name in sheet metal fabricating machines and tools.



Now the FINES[®] is SAFER than ever. New... well guarded, "See-Thru" finger guard, "Toe-High" treadle stop, headless socket screws.

THE PECK, STOW & WILCOX CO., SCUTTINGTON, CHEN.

S-V AUTOMOTIVE ENGINE REBUILDING MACHINES



Superclean CLEANING MACHINE

The Model 200 Superclean Cleaning Machine is a MUST for every shop. Its tremendous turbulence creates fast cleaning action of engine blocks and components.

THE MOST POPULAR ENGINE REBUILDING EQUIPMENT SERVES BEST FOR INSTRUCTION USE...

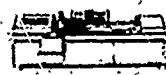
The equipment preferred by Automotive Engine Rebuilders and Service Shops is STORM-VULCAN. S-V equipment was "Designed with the Operator in Mind!" and occupies smaller floor space that is so valuable to schools. S-V Equipment is guaranteed to perform in less time with utmost accuracy. The latest engineering designs in all models are known the World Over for SPEED and ACCURACY.



CRANKSHAFT GRINDERS



MILLING MACHINE



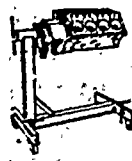
TRANSMISSION TEST STAND



MAGNETIC CRACK FINDER



SPRING ANALYZER



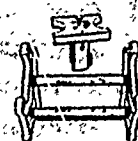
ENGINE STAND



CONNECTING ROD ALIGNER



ROD STRAIGHTENING PRESS



BORING PLATES AND STAND

FOR ALMOST HALF A CENTURY WORLD'S LARGEST EXCLUSIVE MANUFACTURER OF ENGINE REBUILDING EQUIPMENT

STORM-VULCAN, Inc.

2225 BURBANK ST. • AREA CODE 214, ME 1430 • DALLAS, TEXAS 75235

Official publication
of the
American Vocational Association,
Washington, D.C.

VOL. 41/NO. 1/JANUARY 1966

AMERICAN VOCATIONAL JOURNAL

Lowell A. Burkett, ~~Editor-in-Chief~~

Harry H. Cutler, Managing Editor / Alice Finstad, Assistant Editor

NATIONAL ADVERTISING SALES

Karla Dementia, Advertising Manager
1025 15th St., N.W., Washington, D.C.

AVA EDITORIAL BOARD

Agriculture: R. W. MONTGOMERY
Auburn University, Alabama

Business: MARGARET E. ANDREWS
Minneapolis Board of Education

Distributive: HARLAND E. SAMSON
University of Wisconsin, Madison

Home Economics: FRANCES CHAMPION
Florida State Education Department

Industrial Arts: RALPH BOHN
San Jose State College, Calif.

Trade & Industrial: J. R. D. EDDY
University of Texas, Austin

AVA BOARD OF DIRECTORS

Officers

President: K. OTTO LOGAN
Olympia, Wash.

Past President: BYRL R. SHOEMAKER
Columbus, Ohio

Executive Director: L. A. BURKETT
Washington, D. C.

Vice Presidents

Agriculture: FLOYD D. JOHNSON
York, S. C.

Business & Office: BERNARD SHILT
Buffalo, N. Y.

Distributive: LOUISE BERNARD
Richmond, Va.

Home Economics: ELIZABETH SIMPSON
Urbana, Ill.

Industrial Arts: G. HAROLD SILVIUS
Detroit, Mich.

Trade & Industrial: LEE RALSTON
Los Angeles, Calif.

Ex Officio Member

Representative of State Directors
of Vocational Education: JACK P. NIX,
Atlanta, Ga.

Treasurer: ELIZABETH HORTON
Washington, D. C.

IN THIS ISSUE

10 Vocational Facilities—Planned and Underway

12 Hampton Graduate Chooses International Career

VOCATIONAL FACILITIES FOR THE FUTURE

16 San Diego Apprentice School Sets New Pattern / Walter M. Arnold

20 New Shop Philosophy for IA / Howard H. Garrish

23 Home Economics Learning Center / Ata Lee

26 Who Needs a DE Materials Lab? / G. E. Patterson

29 Greenhouses for Ornamental Horticulture / Thomas H. Bell

30 Tools for Teaching Office Skills / Dean R. Malsbary

SPECIAL FEATURE

35 Equipment and Teaching Aids / 1966 Buyers Guide

DEPARTMENTS

5 Latest Word From Washington

8 Short Notes

41 Readers Service Department

42 Equipment and Teaching Aids

44 Book Previews

46 News Roundup

47 Research

COVER

New designs for learning space, modern equipment to teach skills as they are actually used in the world of work, the right materials to enrich that learning—these are facilities required by concepts of vocational education. As some of our stories this month illustrate, the facilities sometimes inspire the program. Photo, courtesy of the American Association of Junior Colleges.

"PERMISSION TO REPRODUCE THIS
COPYRIGHTED MATERIAL HAS BEEN GRANTED

BY *Lowell A. Burkett for American
Vocational Association, Inc.*

TO ERIC AND ORGANIZATIONS OPERATING
UNDER AGREEMENTS WITH THE U.S. OFFICE OF
EDUCATION. FURTHER REPRODUCTION OUTSIDE
THE ERIC SYSTEM REQUIRES PERMISSION OF
"COPYRIGHT OWNER."

The American Vocational Journal is published monthly, September through May, by the American Vocational Association, Inc., 1025 15th St., N.W., Washington, D. C. 20005. All members of Association receive the Journal. Nonmember subscriptions at \$4.00 per year domestic, \$6.00 per year foreign. Bulk subscription rates on request. Affiliated memberships are received through state vocational association secretaries. Second class postage paid at Washington, D. C. Contents of the Journal copyright by the American Vocational Association, Inc., 1966.

AMERICAN VOCATIONAL JOURNAL